

Synthesis Scheme of Wire-Aminouridine-Succinate

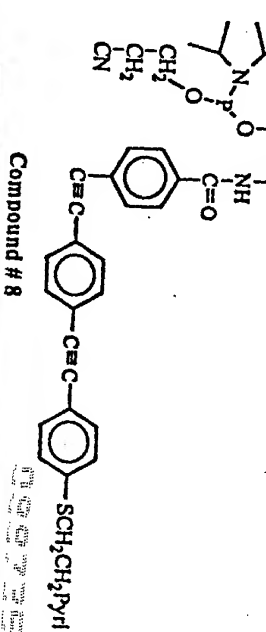
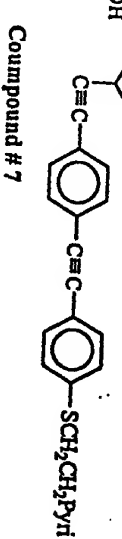
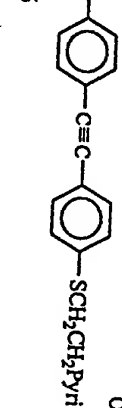
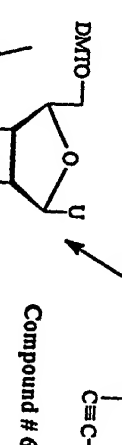
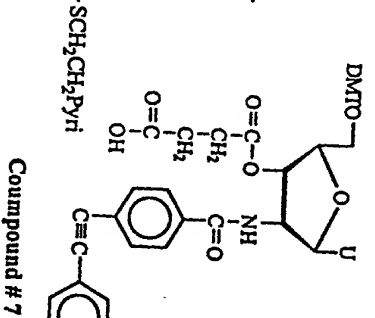
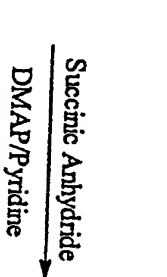
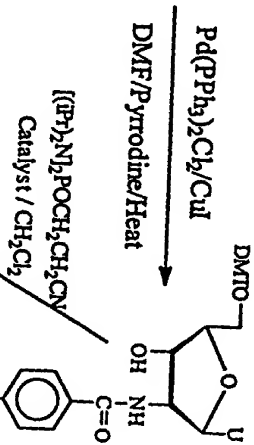
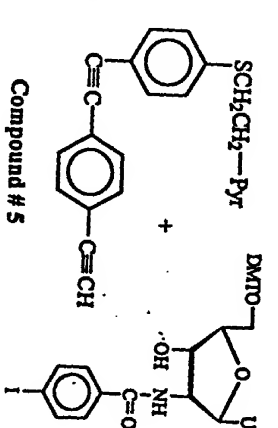
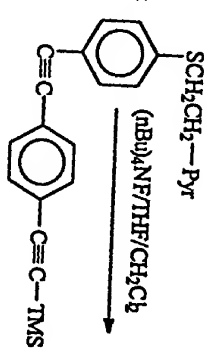
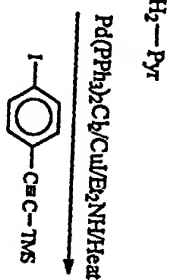
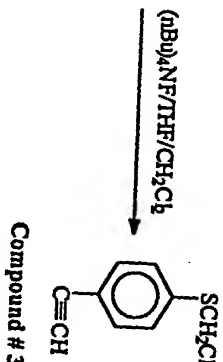
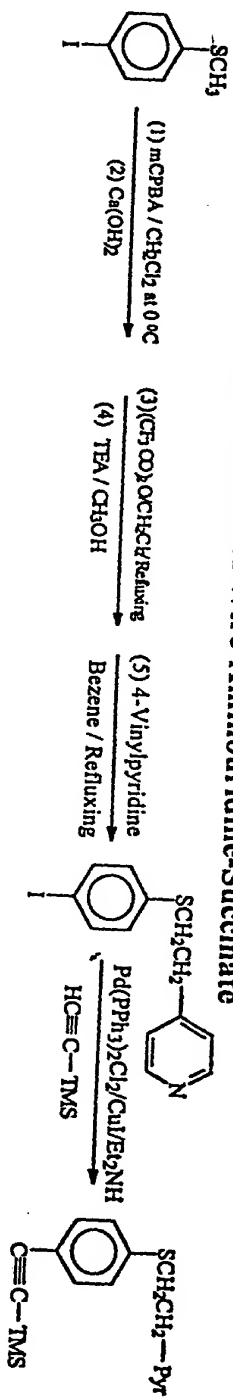


FIGURE 1

Synthesis Scheme of 2'-Arylamino-2'-Deoxy-Uridine

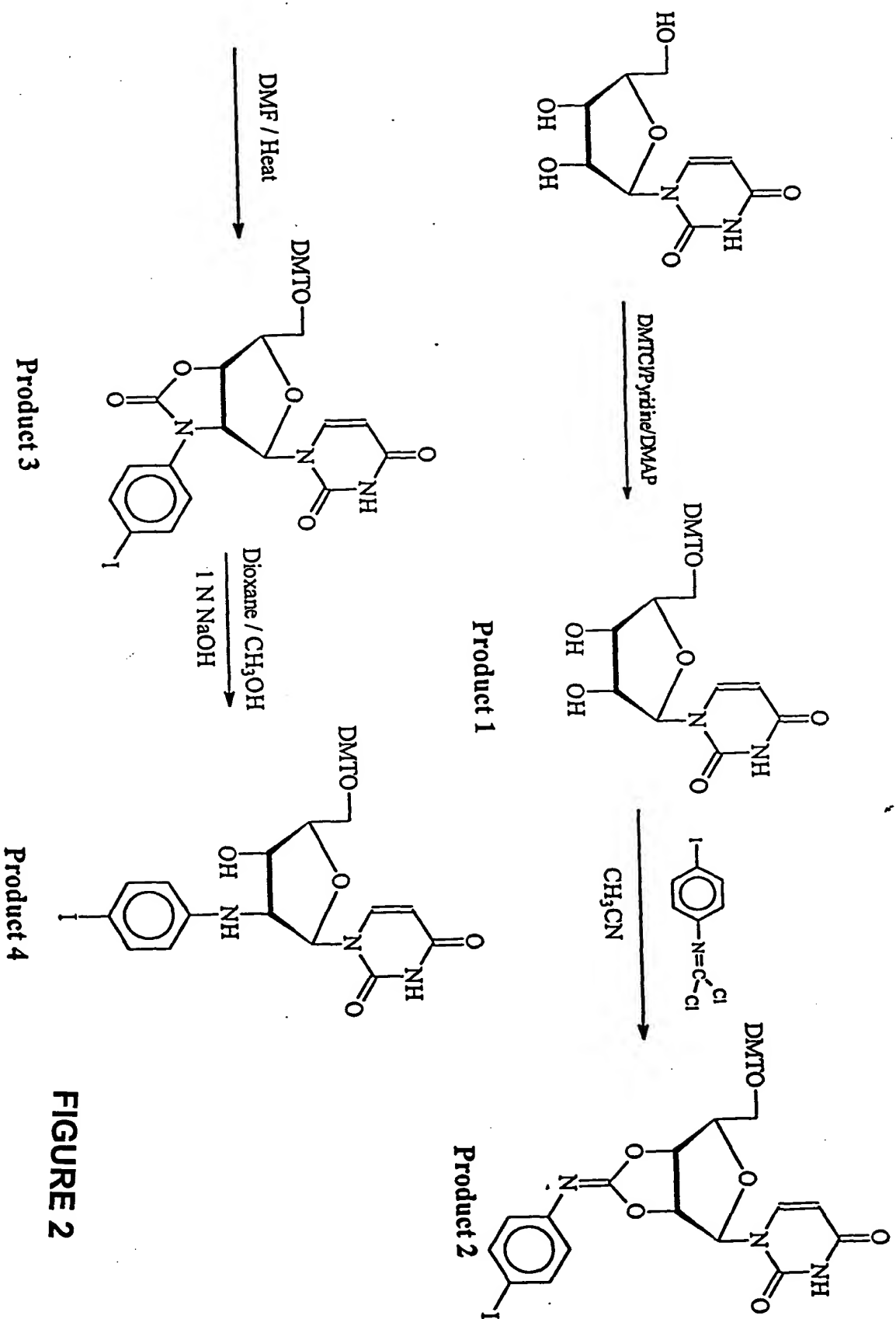


FIGURE 2

Synthesis Scheme of Base-Modified Uridine-Wire Succinate

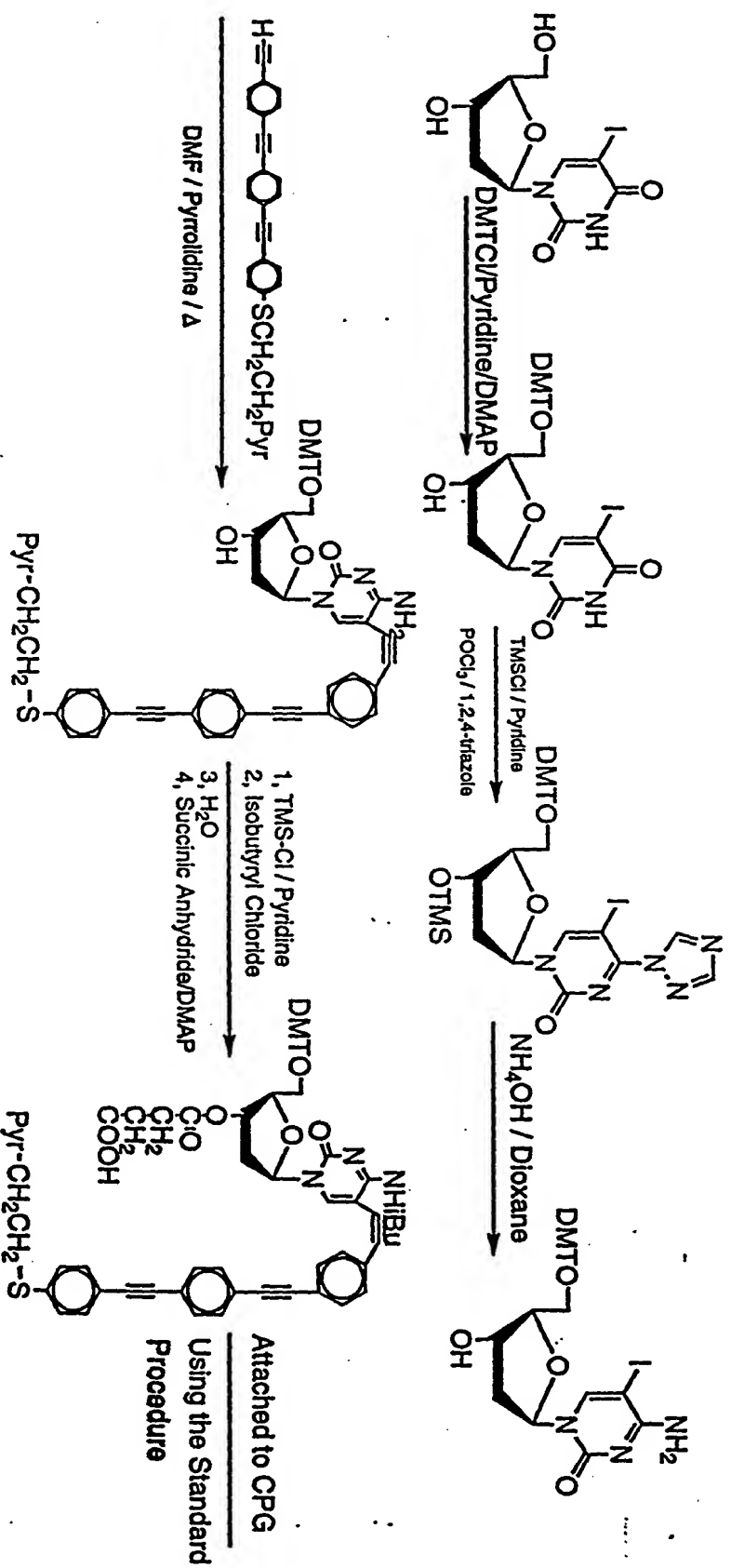


FIGURE 3

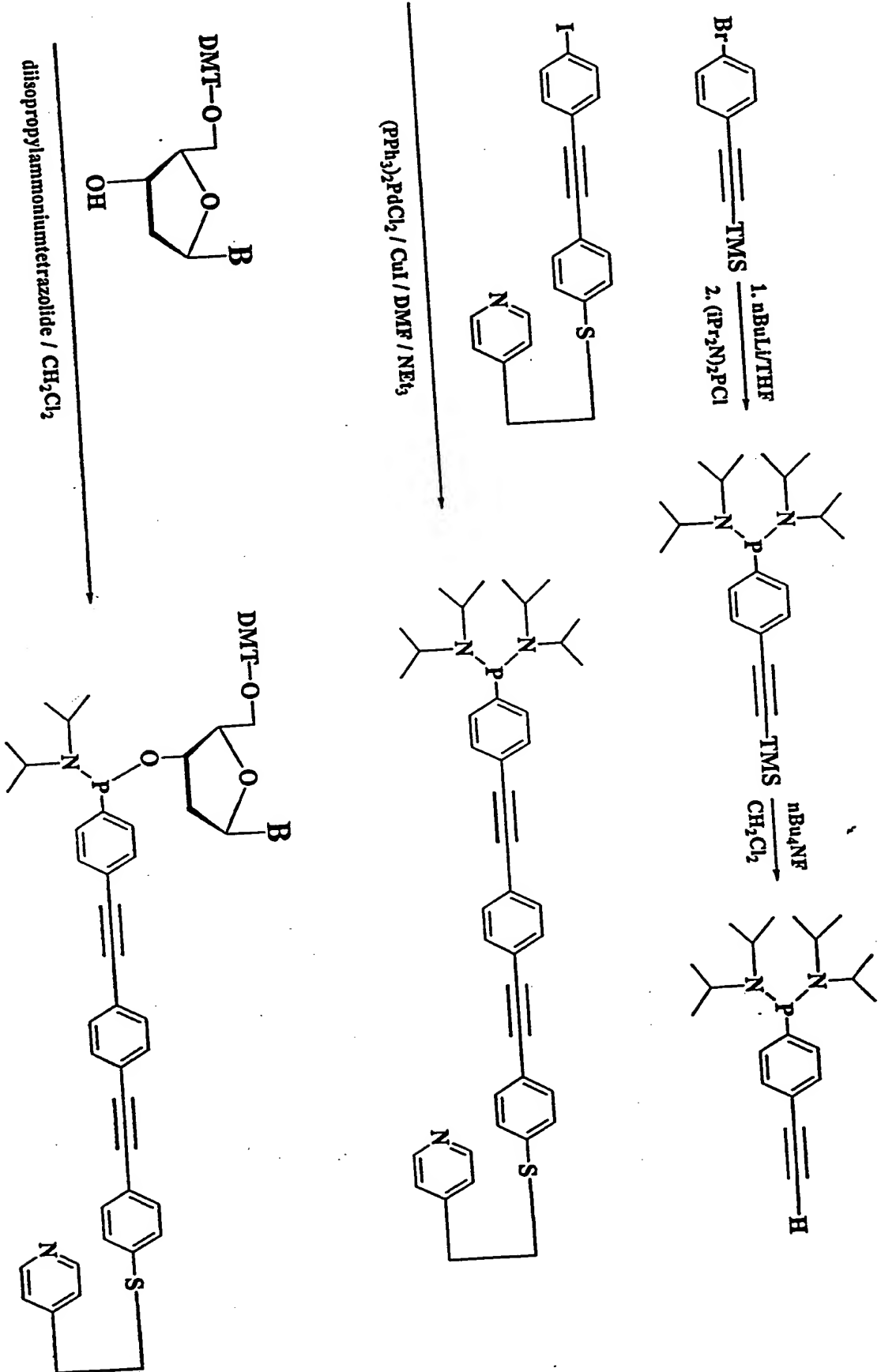
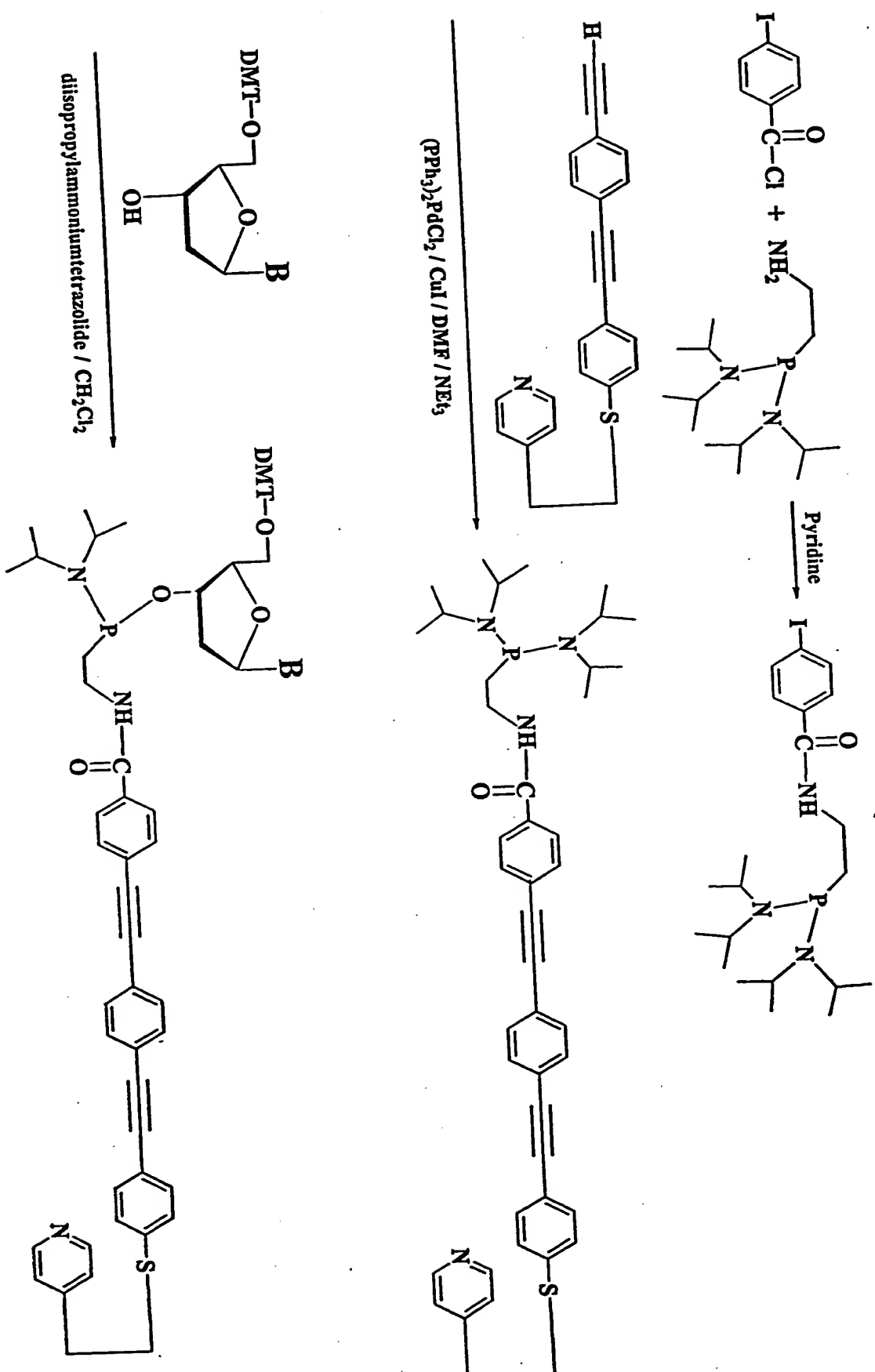


FIGURE 4

FIGURE 5



Synthesis Scheme of Substituted Three-Unit Wire

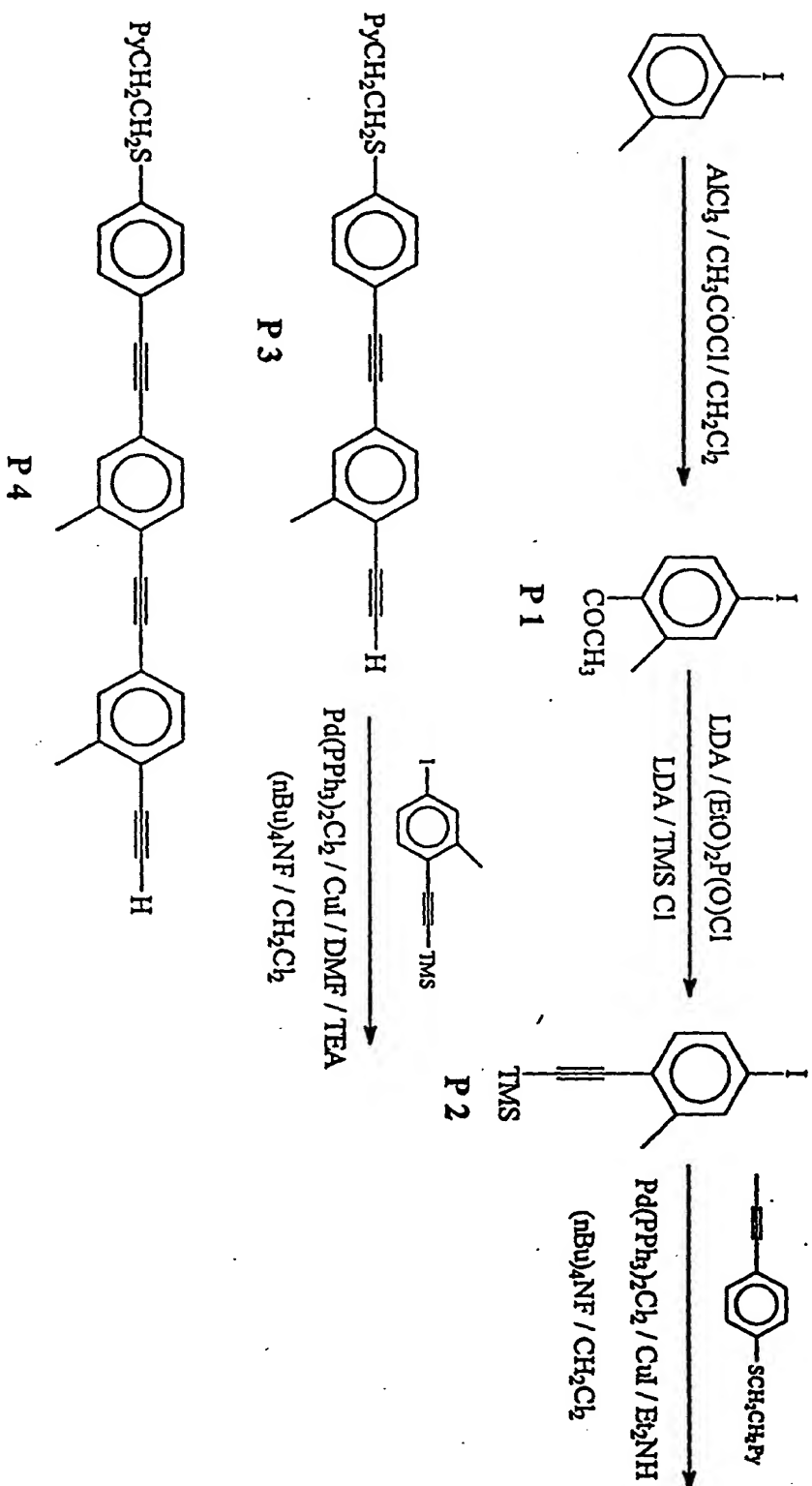


FIGURE 6

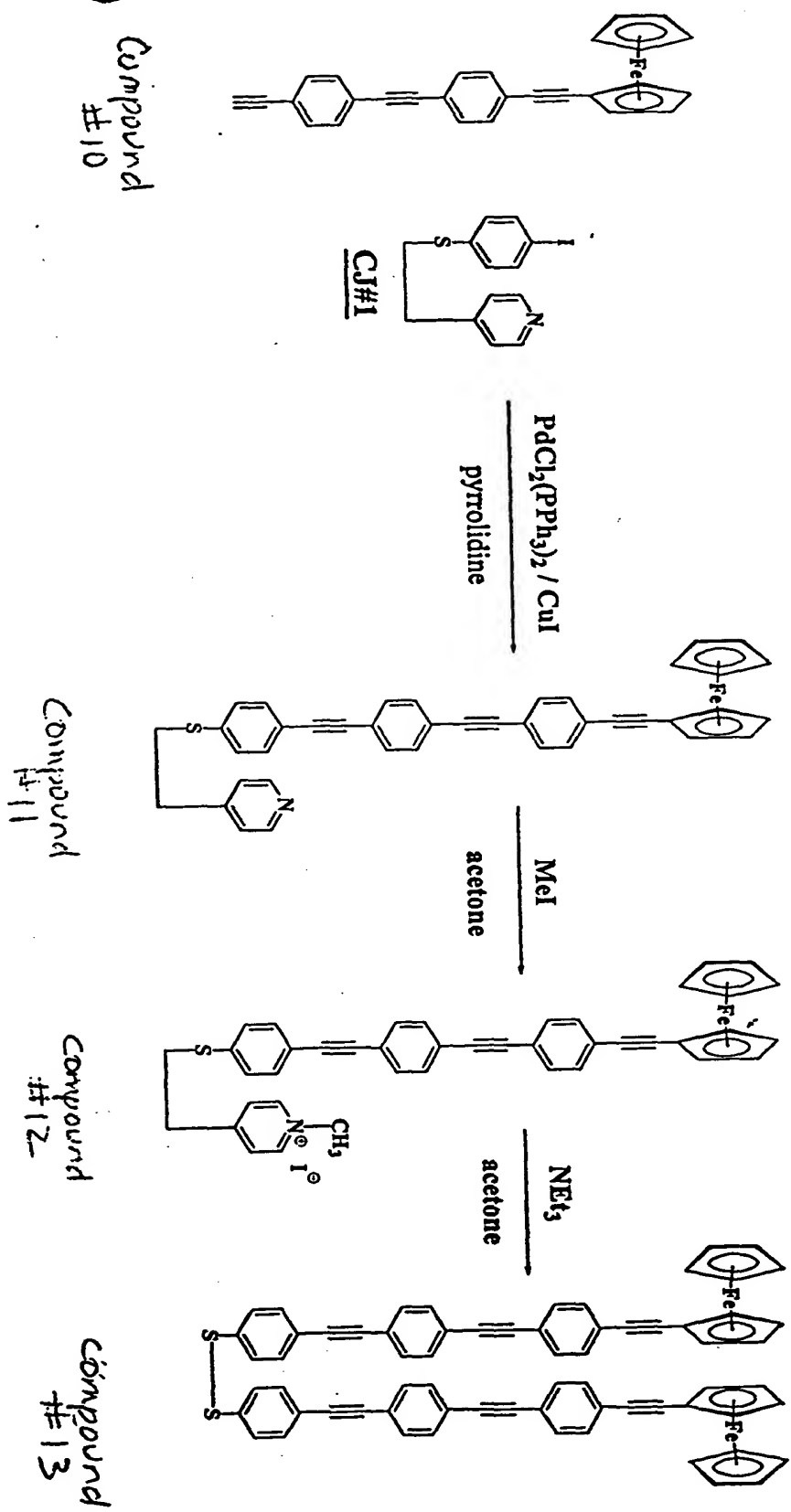
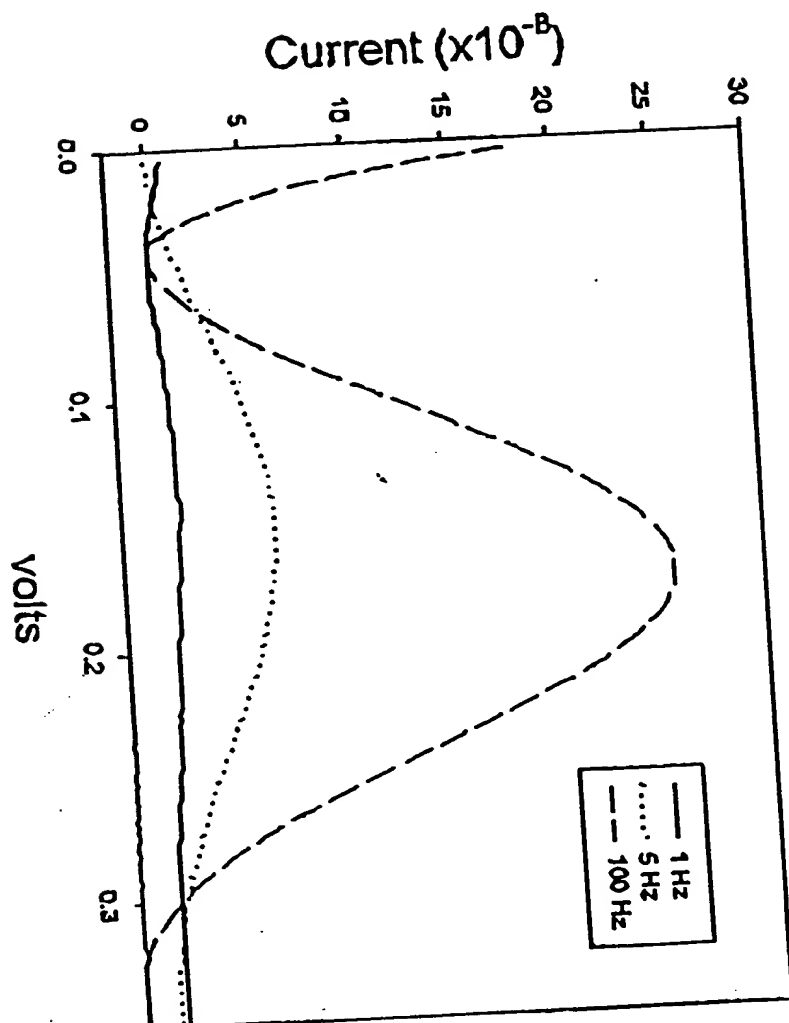


FIGURE 7

FIGURE 8



AC Current Amplitude

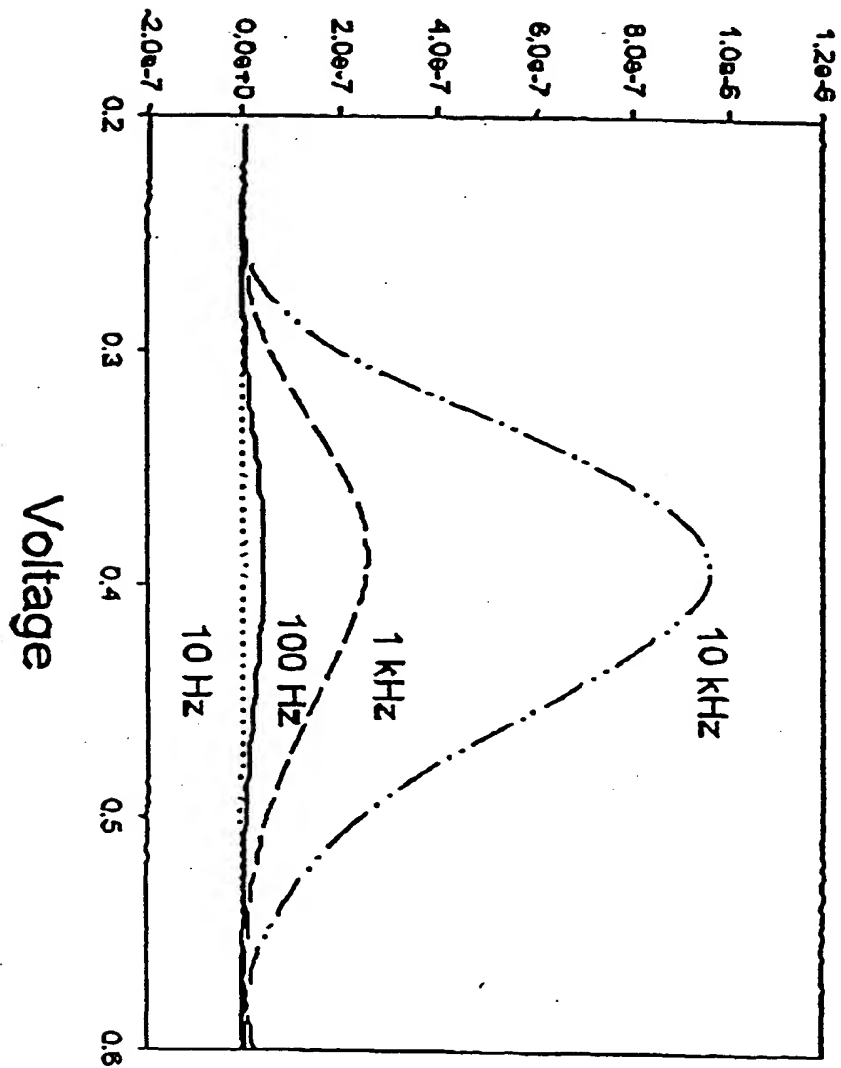


FIGURE 9A

Double and Single Stranded DNA

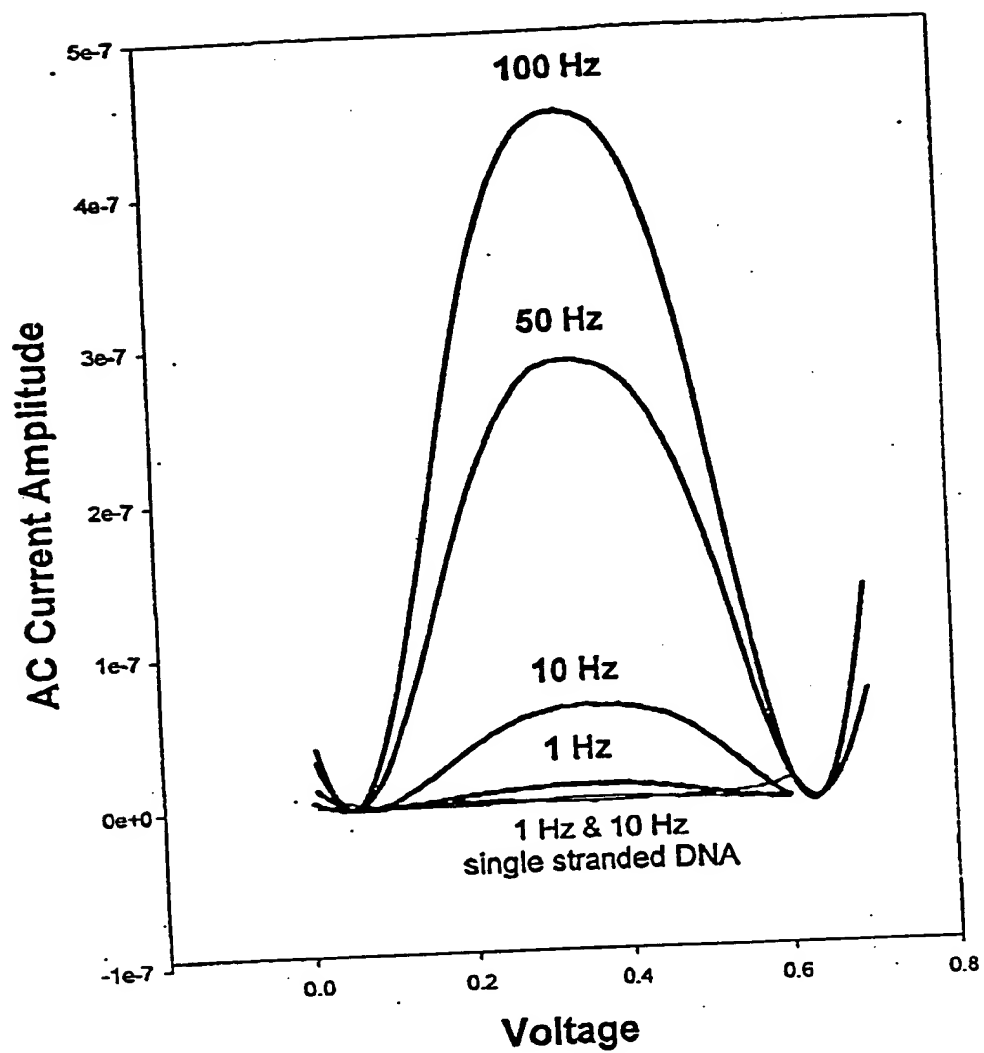


FIGURE 9B

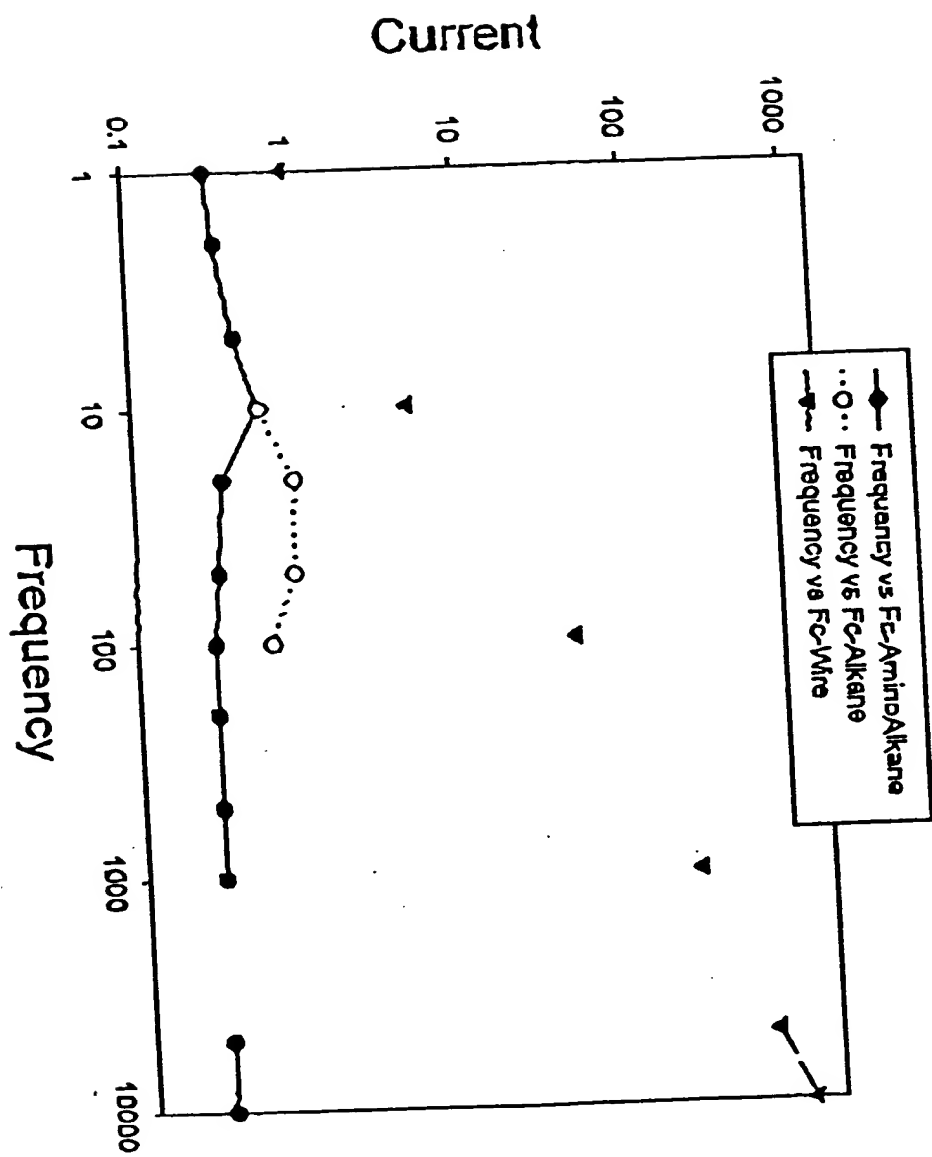


FIGURE 10

DNA and RC circuits

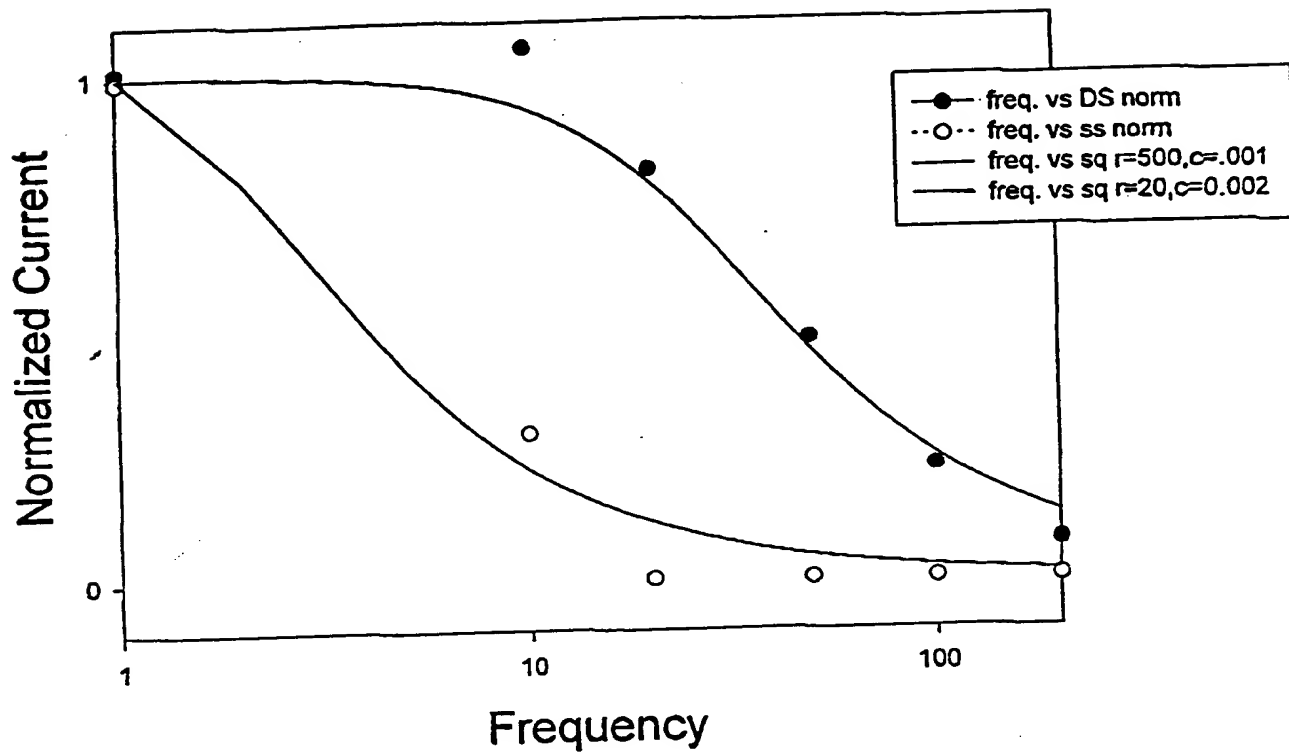


FIGURE 11

1 KHz ACV

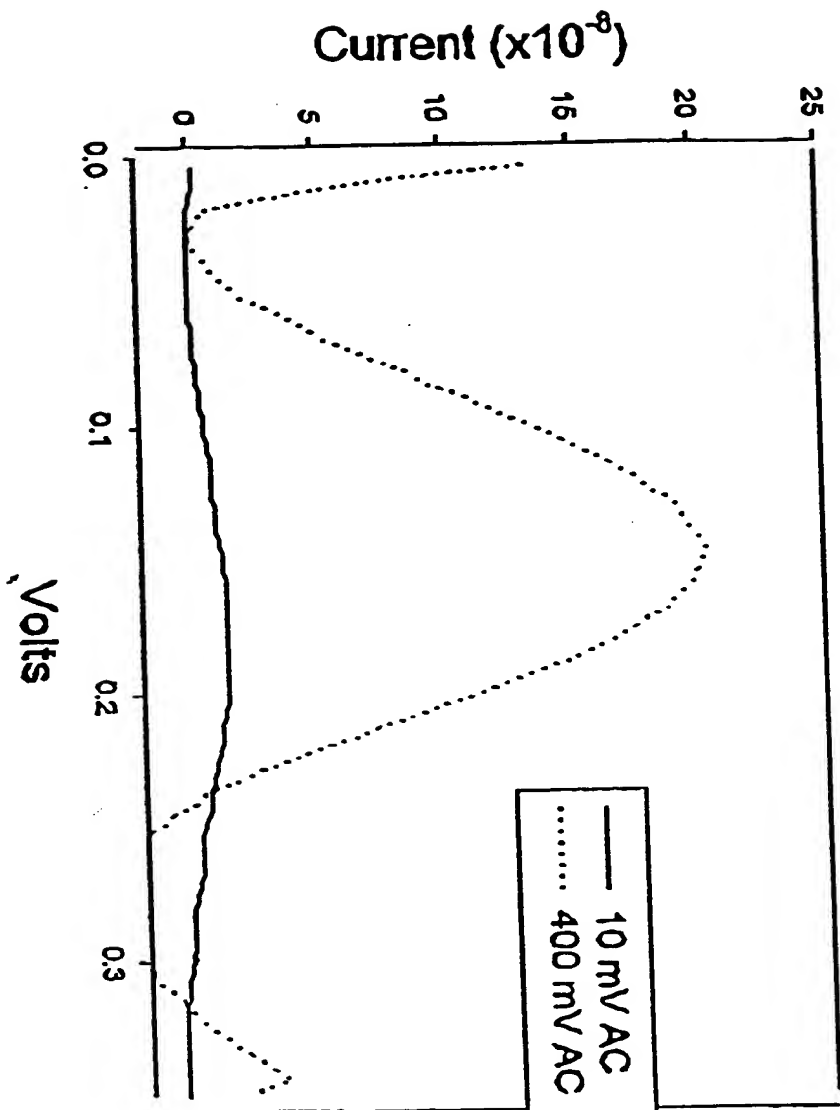


FIGURE 12

Fc alkane at 25 mV overpotential

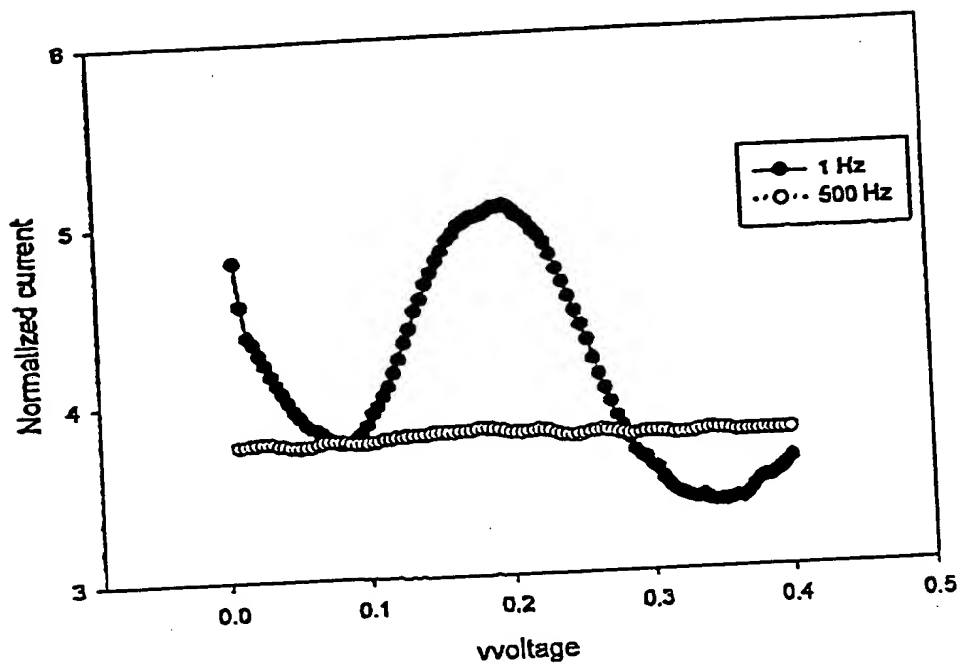


FIGURE 13A

Fc alkane, 1 Hz at 25 mV overpotential
500 Hz at 200 mV overpotential

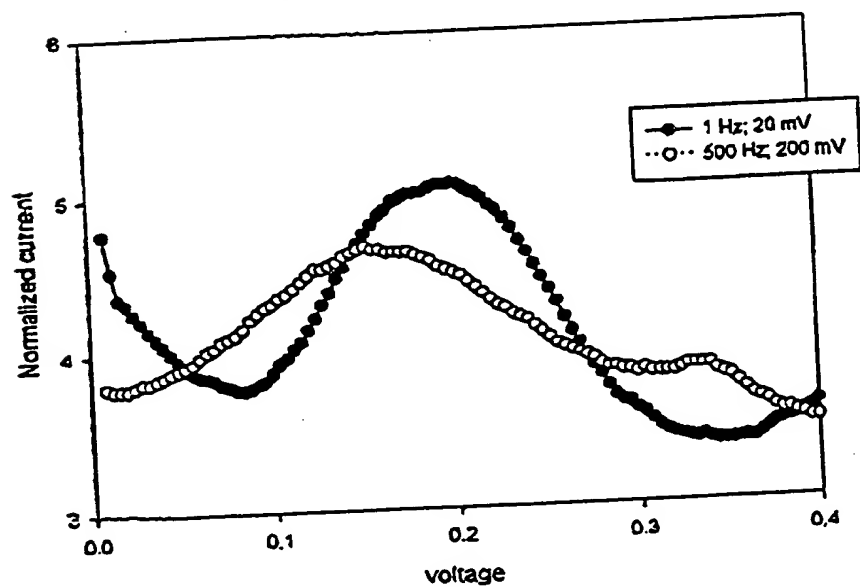


FIGURE 13B

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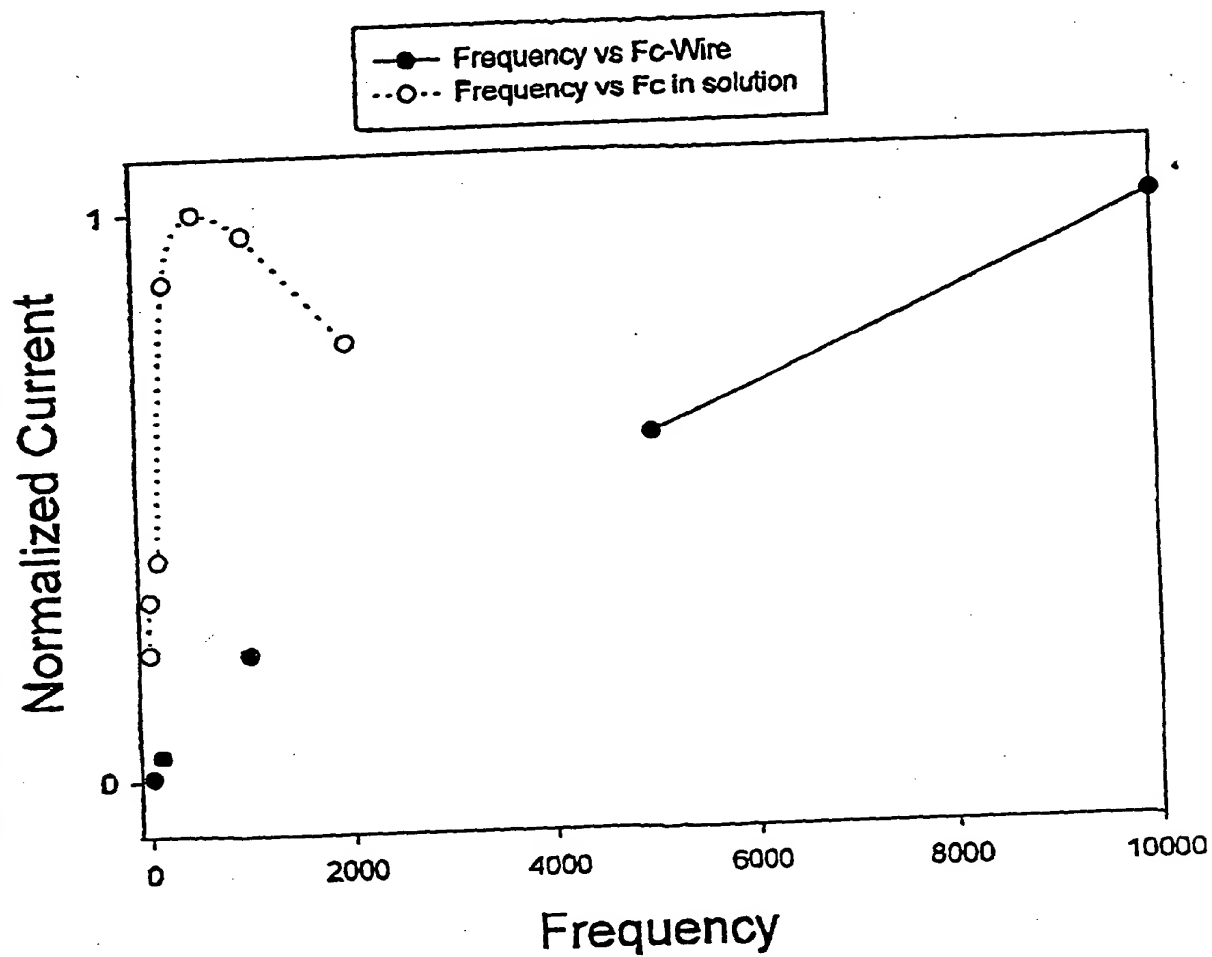


FIGURE 14

CONFIDENTIAL

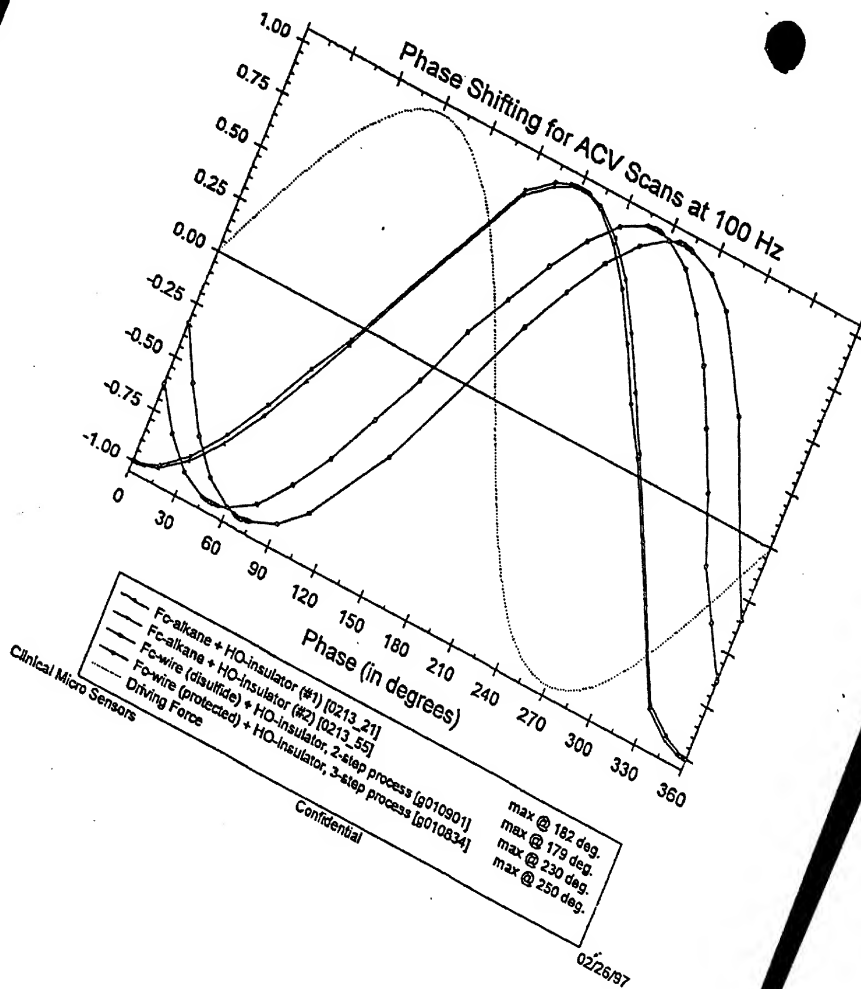


FIGURE 15A

ACV Phase Diagram at 50Hz
For 121803d (DS) and 021007a2 (SS)

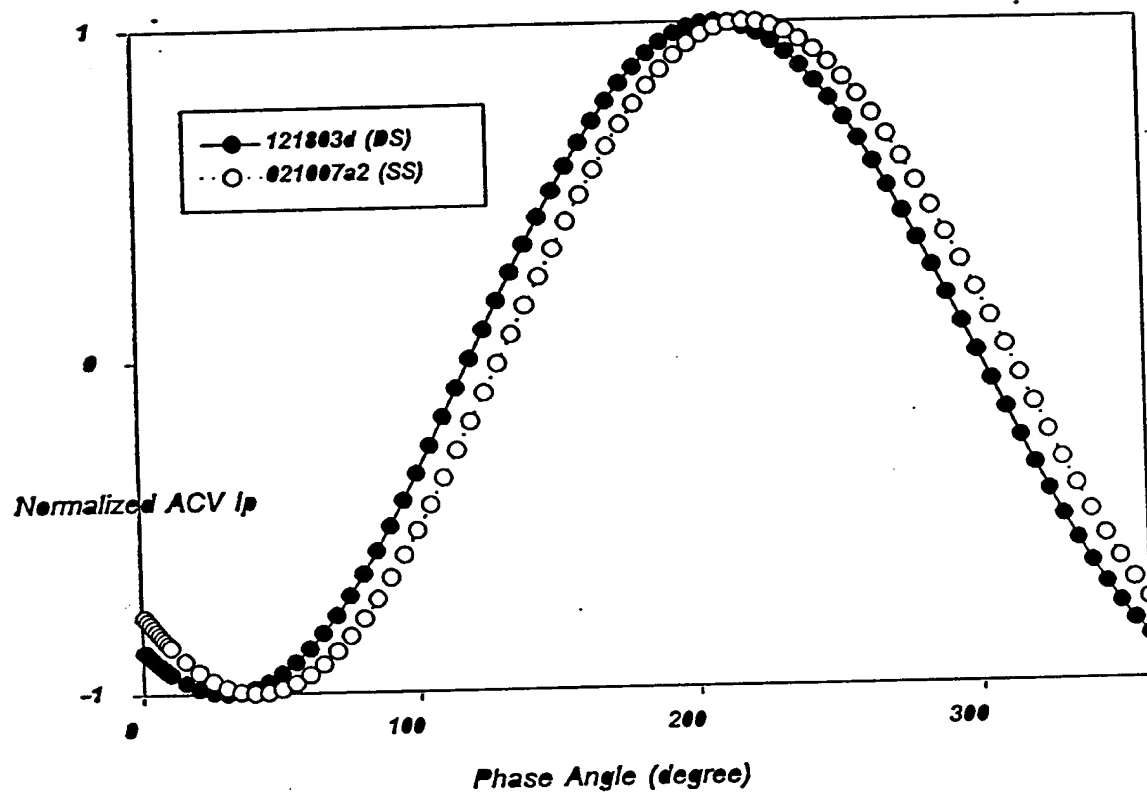


FIGURE 15B

Synthesis Scheme of the Benzylamino-Uridine

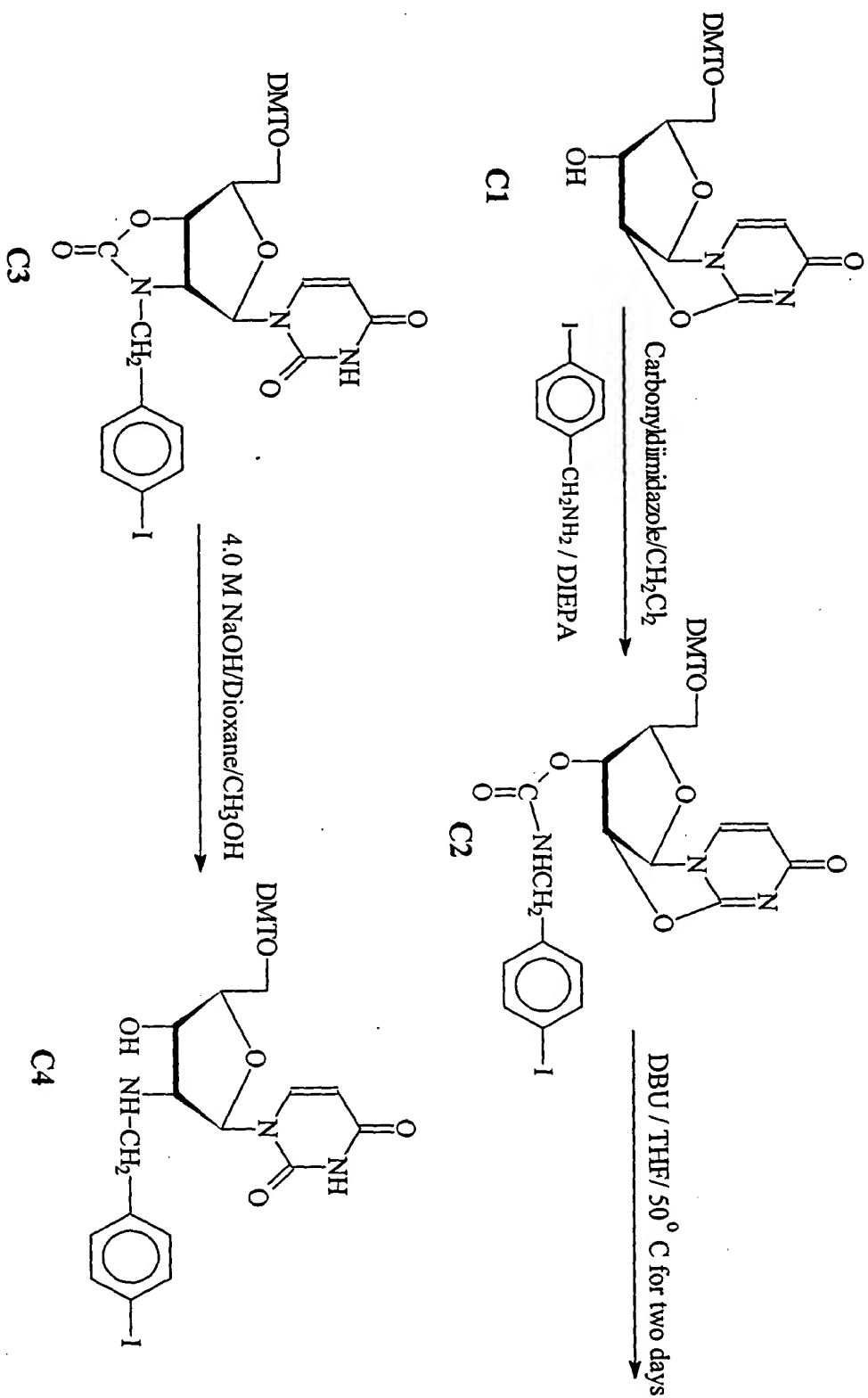


FIGURE 16

Fig 17A

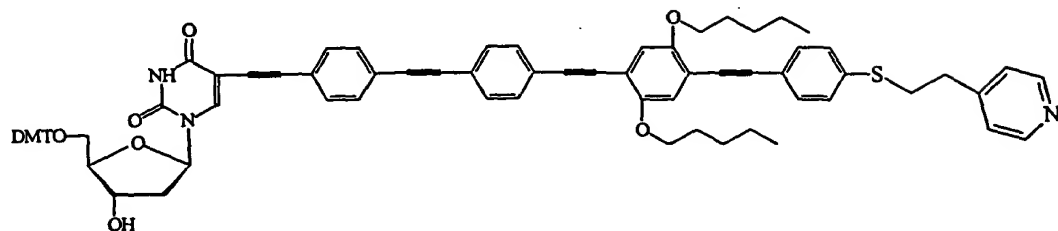


Fig 17B

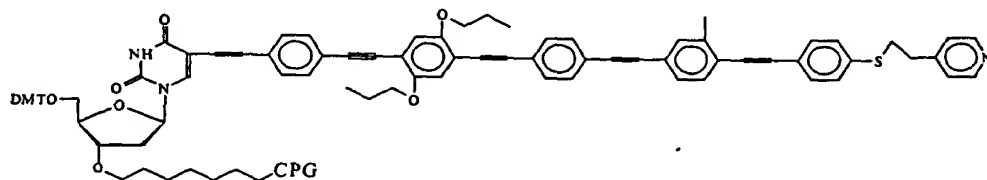


Fig 17C

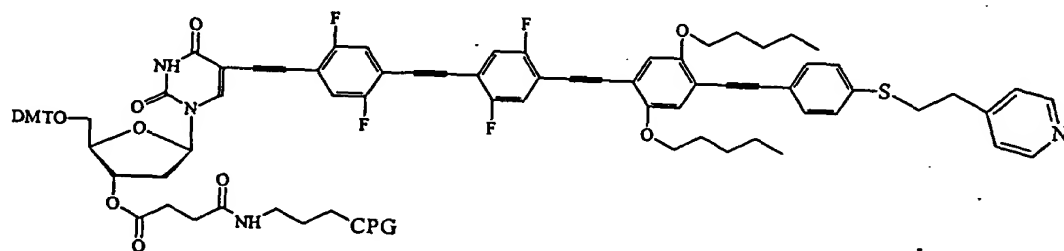
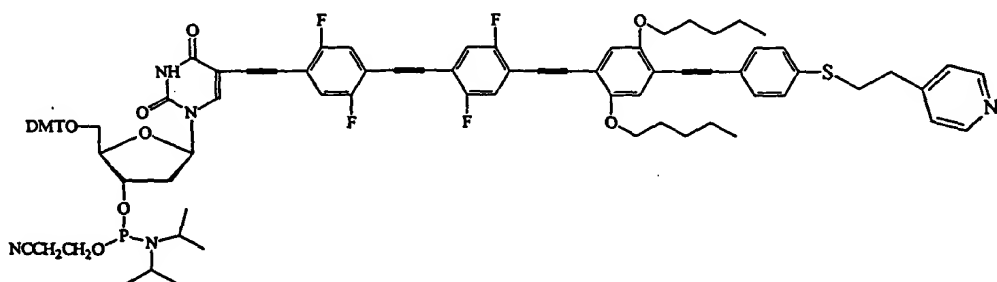
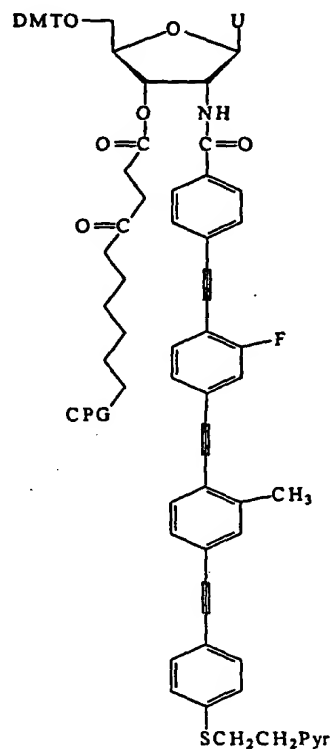
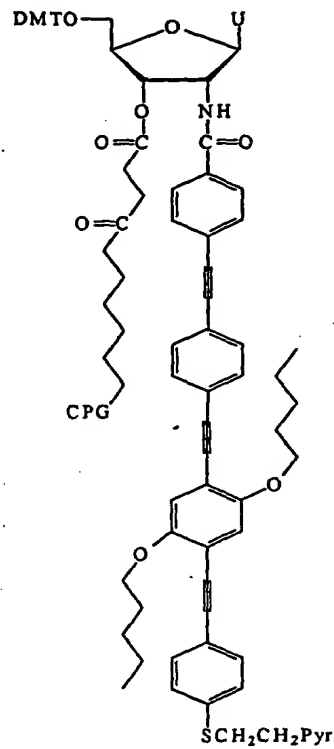


Fig 17D





4-BW-F-Uridine-CPG



4-BW-2CS-Uridine-CPG

Fig 17E

Fig 17F

Fig 17G

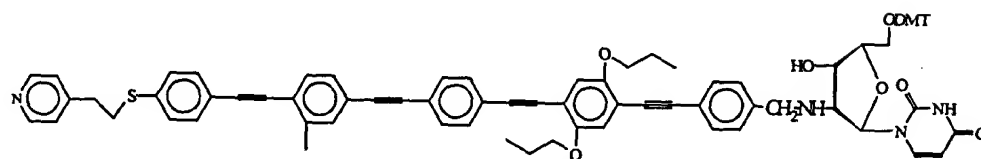
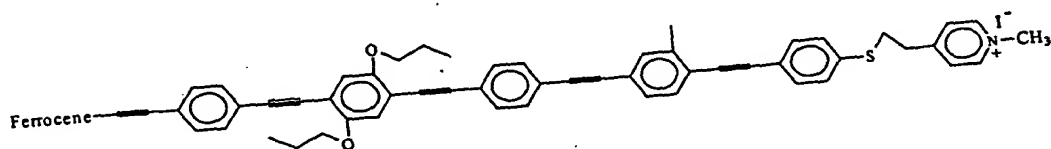
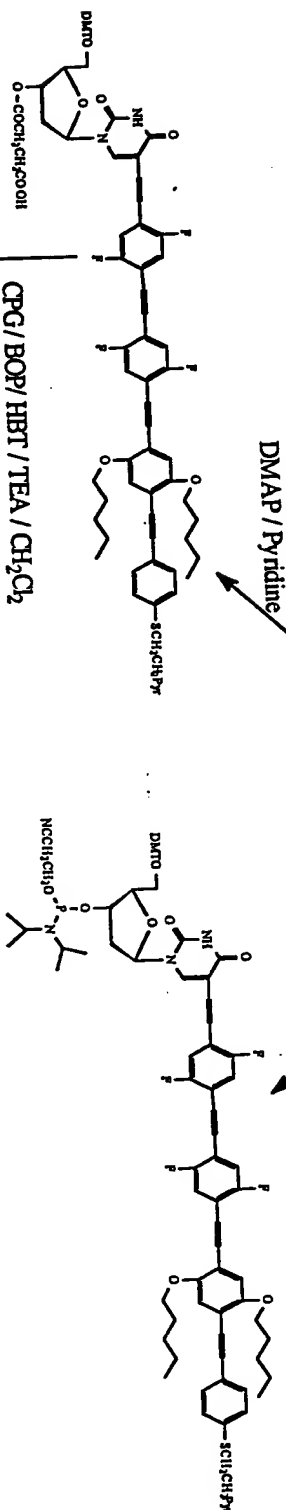


Fig 17H





4-unit-uridine-base-attachment-CPG

Synthesis Scheme II of 4-Unit-Wire-uridine, CPG and Phosphorimidite

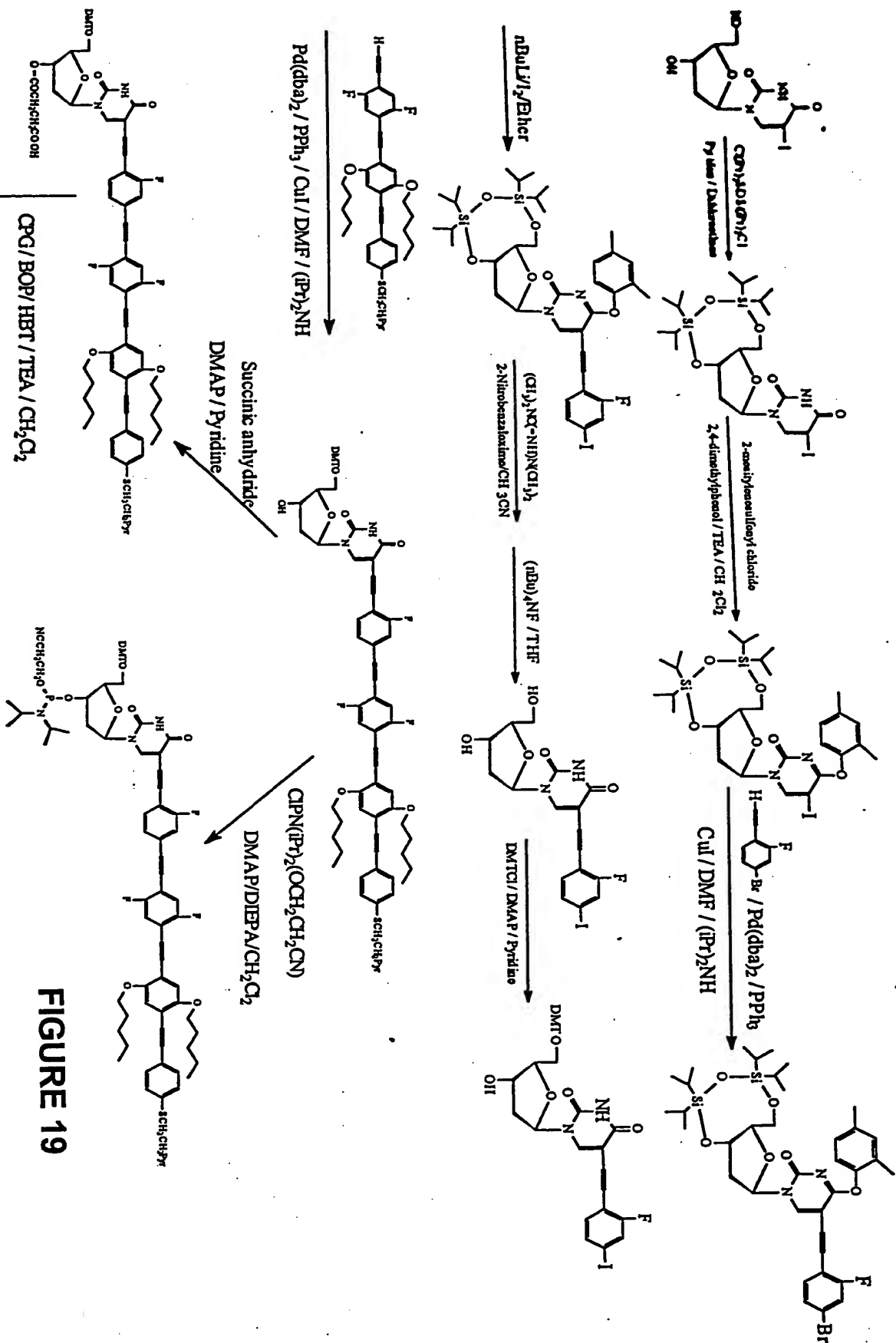


FIGURE 19

Second Generation of Sulfur Protection in the Base-Attached Wire-DNA Synthesis

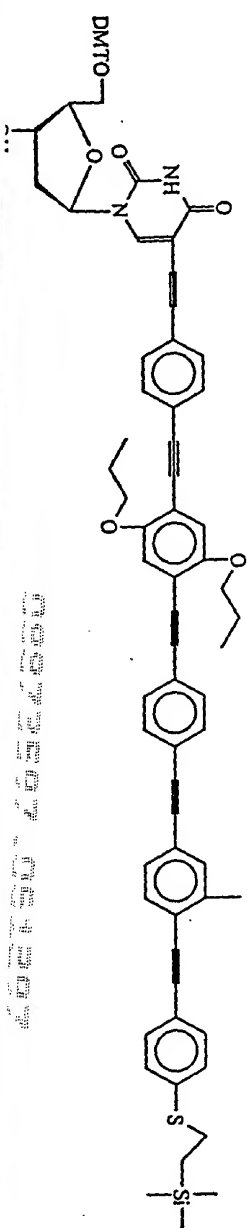
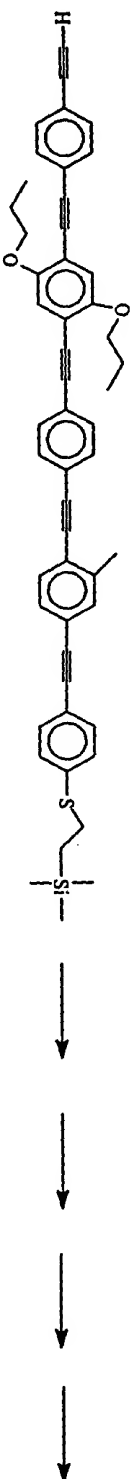
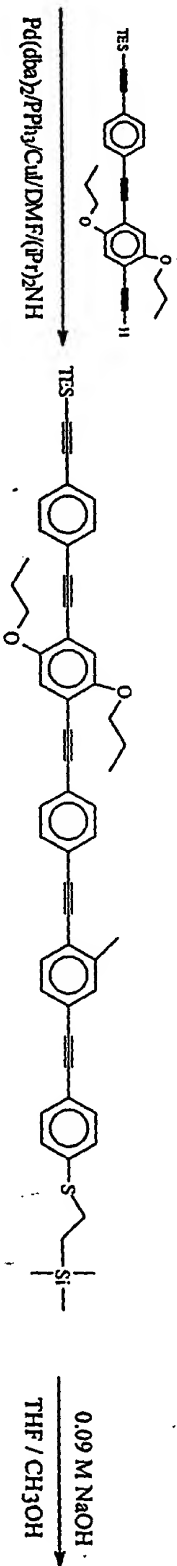
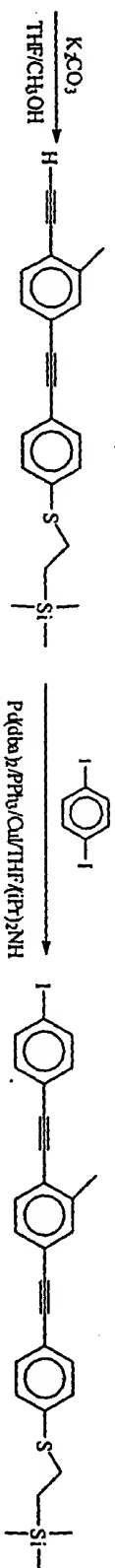
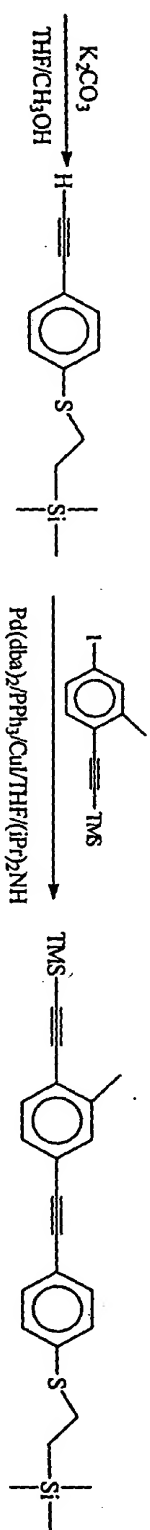
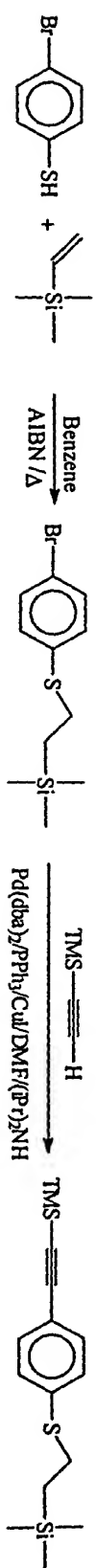


FIGURE 20

Second Generation of Sulfur Protection in the Sugar-Attached Wire-DNA Synthesis

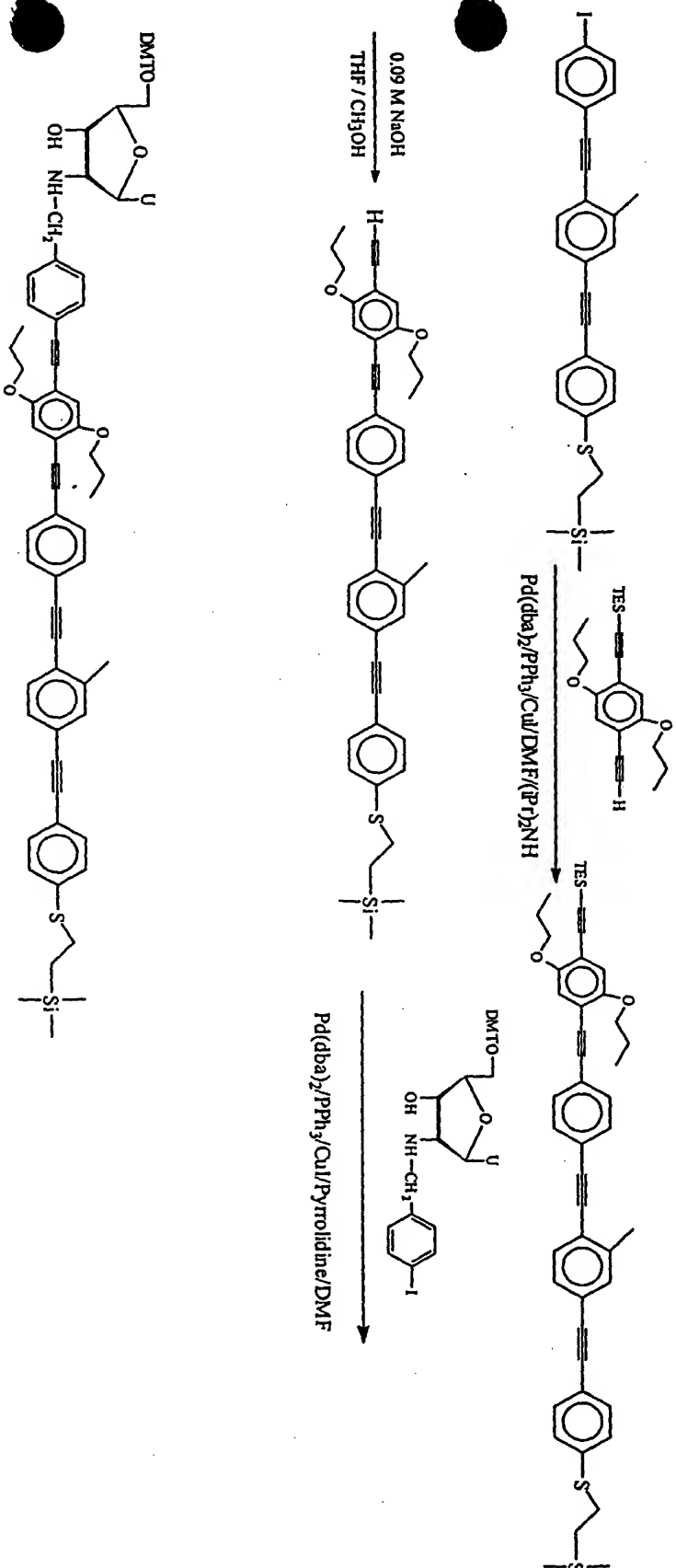


FIGURE 21

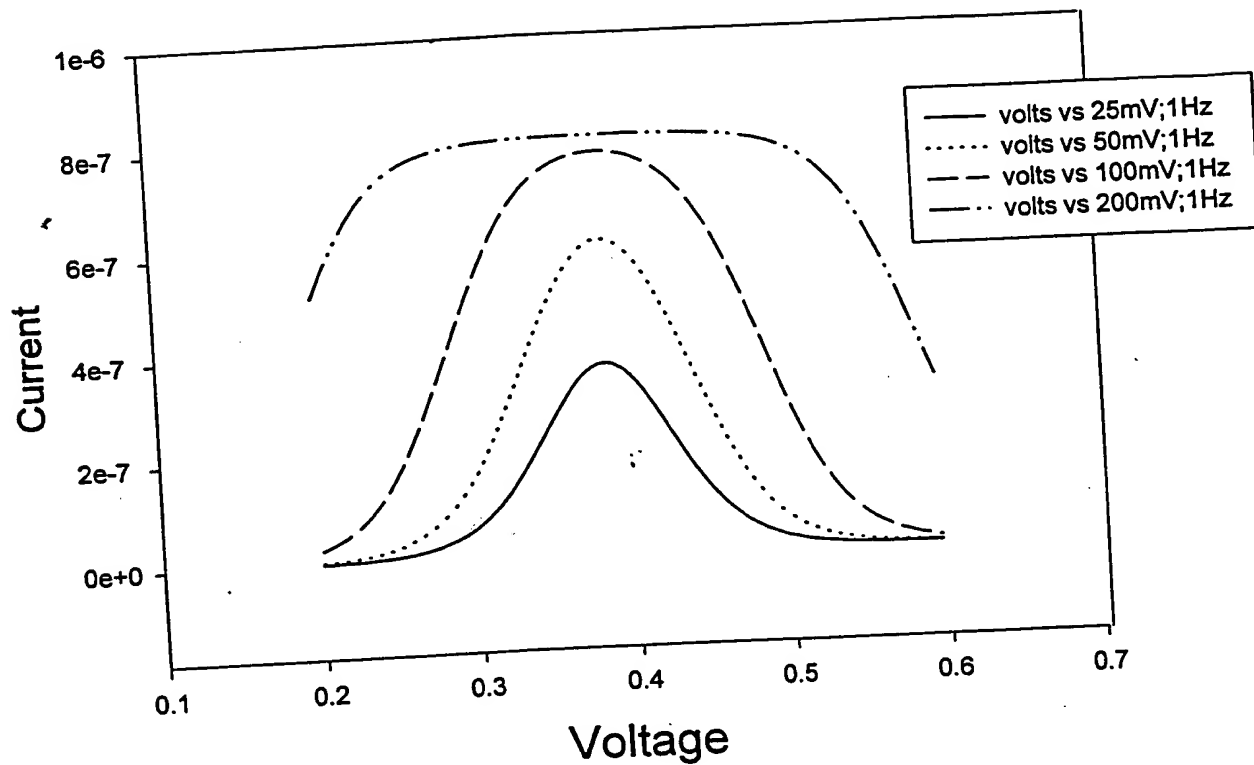


FIGURE 22A

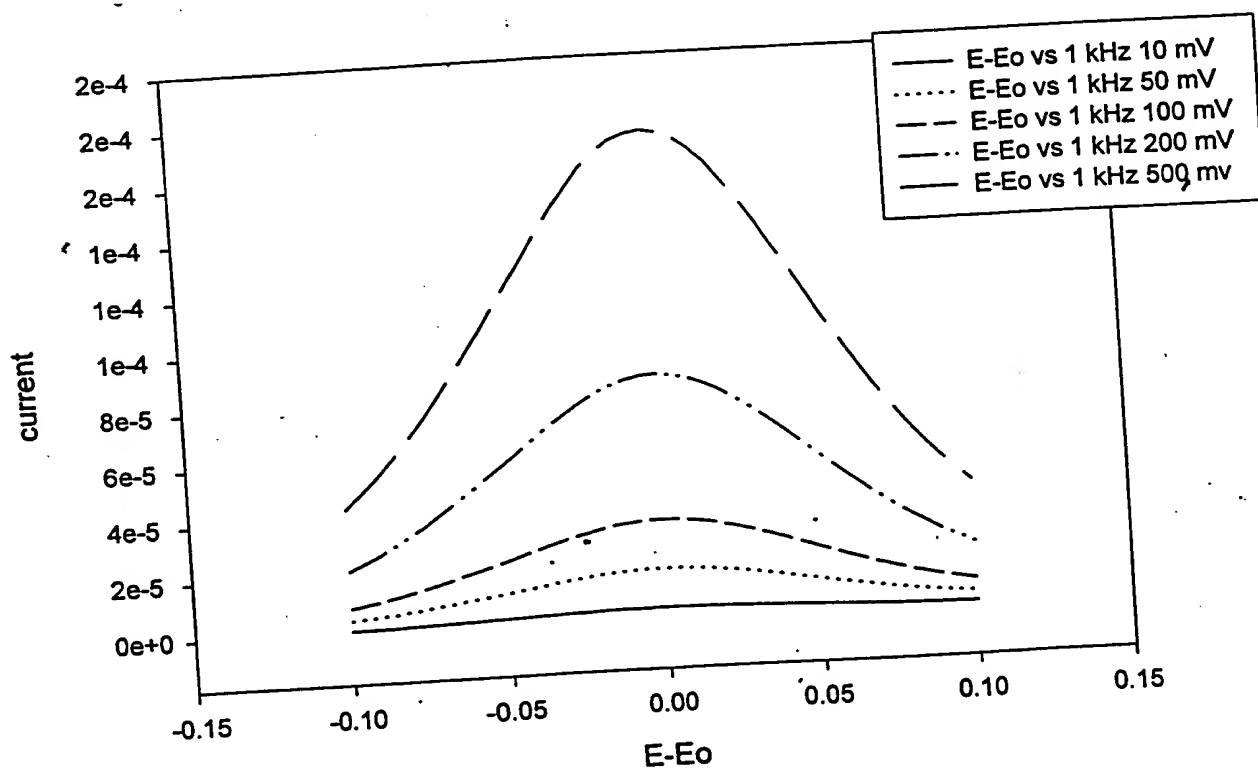


FIGURE 22B

Fc-Wire for 10 Hz

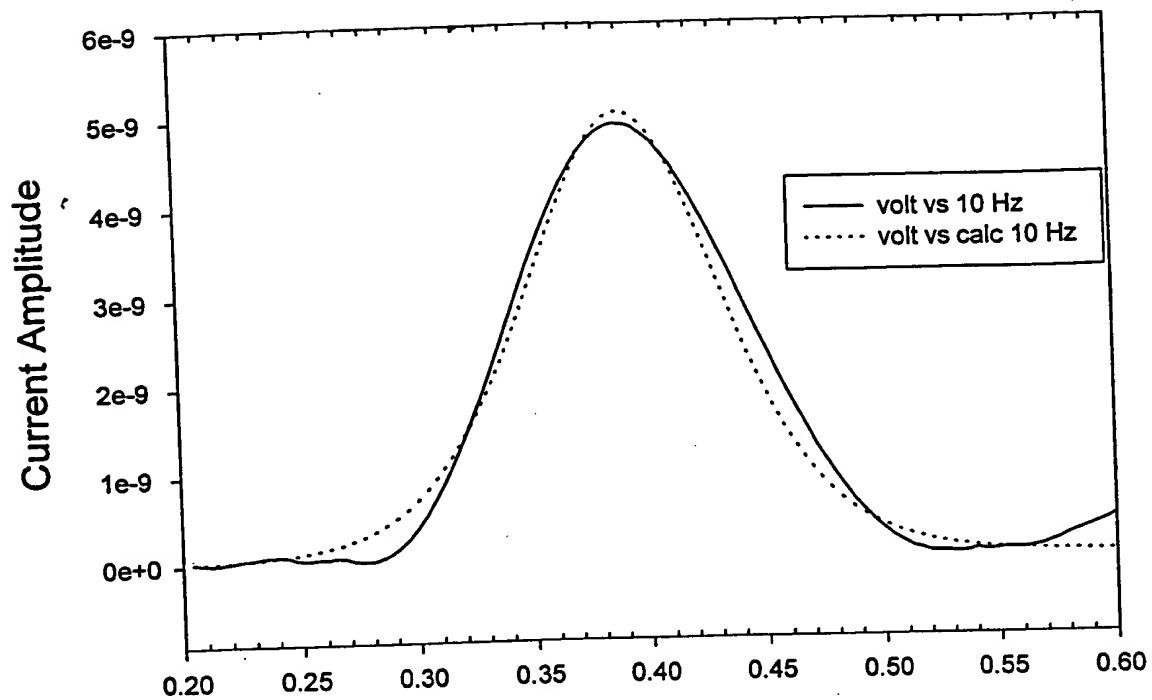


FIGURE 23A

Voltage centered around 0.38 V

Fc-Wire for 100 Hz

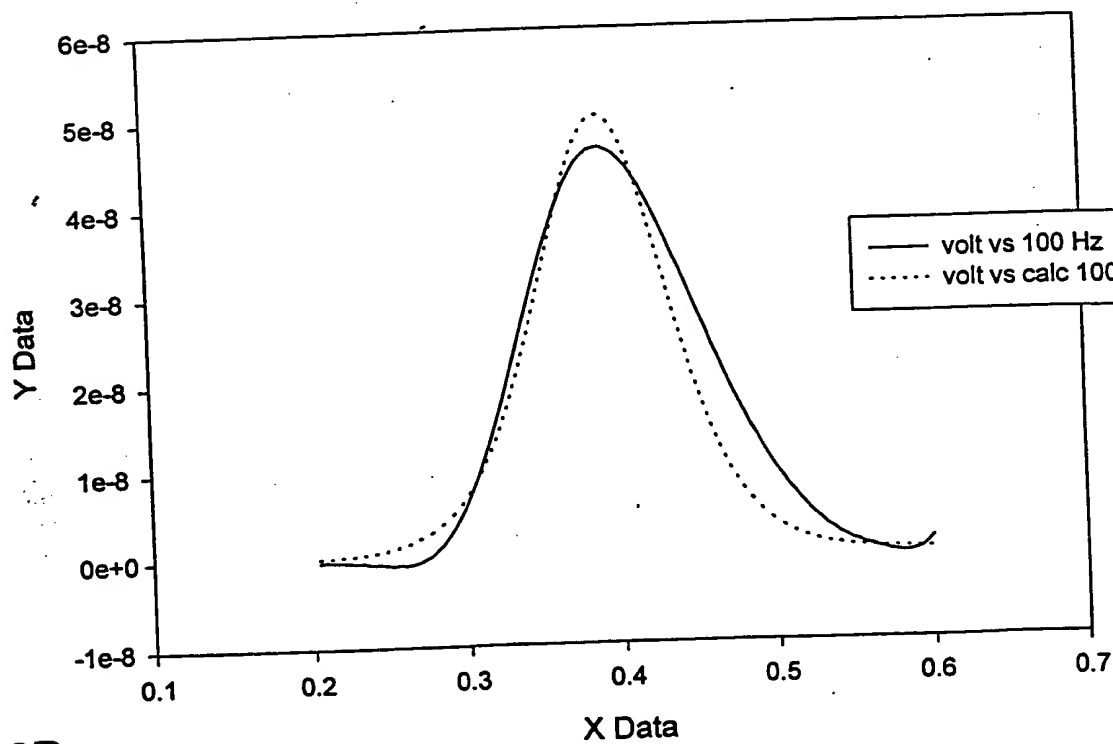


FIGURE 23B